

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference  PO14931WO	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No.  PCT/GB 03/05186	International filing date (day/month/year)  28/11/2003	(Earliest) Priority Date (day/month/year)  29/11/2002
Applicant  SONY UNITED KINGDOM LIMITED		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).
- b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing :
  - contained in the international application in written form.
  - filed together with the international application in computer readable form.
  - furnished subsequently to this Authority in written form.
  - furnished subsequently to this Authority in computer readable form.
  - the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
  - the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2.  Certain claims were found unsearchable (See Box I).

3.  Unity of invention is lacking (see Box II).

4. With regard to the title,

- the text is approved as submitted by the applicant.
- the text has been established by this Authority to read as follows:

FACE DETECTION AND TRACKING

5. With regard to the abstract,

- the text is approved as submitted by the applicant.
- the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

- as suggested by the applicant.
- because the applicant failed to suggest a figure.
- because this figure better characterizes the invention.

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None of the figures.

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 03/05186

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC 7 G06K9/00

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G06K G06T

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CROWLEY J L ET AL: "Multi-modal tracking of faces for video communications" COMPUTER VISION AND PATTERN RECOGNITION, 1997. PROCEEDINGS., 1997 IEEE COMPUTER SOCIETY CONFERENCE ON SAN JUAN, PUERTO RICO 17-19 JUNE 1997, LOS ALAMITOS, CA, USA, IEEE COMPUT. SOC, US, 17 June 1997 (1997-06-17), pages 640-645, XP010237419 ISBN: 0-8186-7822-4 the whole document	1,2,4-6, 10,12, 15-21
Y	---	3,7,8 -/-



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

\* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*&\* document member of the same patent family

Date of the actual completion of the international search

10 March 2004

Date of mailing of the international search report

26/03/2004

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## INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 03/05186

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	BLACK M J ET AL: "EIGENTRACKING: ROBUST MATCHING AND TRACKING OF ARTICULATED OBJECTS USING A VIEW-BASED REPRESENTATION" EUROPEAN CONFERENCE ON COMPUTER VISION, BERLIN, DE, vol. 1, 1996, pages 329-342, XP000884485 abstract page 329 -page 331, paragraph 4 ---	3
Y	ROSALES R. ET AL: "3D trajectory recovery for tracking multiple objects and trajectory guided recognition of actions" TECHNICAL REPORT, COMPUTER SCIENCE DEPARTMENT, BOSTON UNIVERSITY, BU-CS-TR98-019, 1998, pages R1-7, XP002272970 Appeared in Proc. IEEE Conf. on Computer Vision and Pattern Recognition, June 1999 abstract; figure 1 page 1, left-hand column -right-hand column, paragraph 3 page 4, left-hand column, paragraph 5 -column 3, paragraph 3 page 7, left-hand column, paragraph 2 ---	7,8
A	CE WANG ET AL: "A hybrid real-time face tracking system" ACOUSTICS, SPEECH AND SIGNAL PROCESSING, 1998. PROCEEDINGS OF THE 1998 IEEE INTERNATIONAL CONFERENCE ON SEATTLE, WA, USA 12-15 MAY 1998, NEW YORK, NY, USA, IEEE, US, 12 May 1998 (1998-05-12), pages 3737-3740, XP010279645 ISBN: 0-7803-4428-6 page 3737, left-hand column, paragraph 1 ---	15,16
A	JORDAO L ET AL: "Active face and feature tracking" IMAGE ANALYSIS AND PROCESSING, 1999. PROCEEDINGS. INTERNATIONAL CONFERENCE ON VENICE, ITALY 27-29 SEPT. 1999, LOS ALAMITOS, CA, USA, IEEE COMPUT. SOC, US, 27 September 1999 (1999-09-27), pages 572-576, XP010354237 ISBN: 0-7695-0040-4 page 574, right-hand column, paragraph 1; figure 4 ---	11